AMENDMENT

IN THE CLAIMS

Please replace claims 1 and 30 with the following:

MARKED-UP VERSION OF THE CLAIMS

IN THE CLAIMS

Please amend claims 1 and 30 as follows:

1. (Currently Amended) A thermal transfer system, comprising:

a container for receiving a medium;

a structure positioned in the container such that the structure segments the container into a plurality of compartments wherein a distal end of the structure is in close proximity to an interior surface of the container to allow formation of a thermal transfer bridge, by said medium, ~~that conducts heat into or out of the medium~~ wherein heat is transferred from said distal end of the structure through said thermal bridge to said interior wall in response to said interior wall being actively cooled.

2. (Original) A thermal transfer system as in claim 1 including:

a heating or cooling device coupled to and provides heating or cooling of the container.

3. (Original) A thermal transfer system as in claim 1 including:

a heating or cooling device coupled to and provides heating or cooling of the structure.

4. (Original) A thermal transfer system as in claim 1 including:

a heating or cooling device coupled to and provides heating or cooling of the container and the structure.

5. (Original) A thermal transfer system as in claim 1 including:

a plurality of structures in the container.

6. (Original) A thermal transfer system as in claim 1, including:

a removable liner configured to cover at least a portion of the structure.

7. (Original) A thermal transfer system as in claim 1 wherein:

a volume of the containers in the range from substantially 1 liter to 250 liters.

8. (Original) A thermal transfer system as in claim 1 wherein:

a volume of the container is in the range from substantially 250 liter to 10,000 liters.

9. (Original) A thermal transfer system as in claim 1 wherein:

the distal end of the structure contacts at least a portion of the interior surface of the container.

10. (Original) A thermal transfer system as in claim 1 wherein:

a distance between the distal end of the structure and the interior surface of the container is a non-contacting distance not greater than one inch.

11. (Original) A thermal transfer system as in claim 1 wherein:

the container includes a jacket defining an interstitial space positioned between the jacket and a wall of the container for receiving a flow of a heat exchange fluid, the jacket further including a plurality of spiral baffles for enhancing thermal exchange between the heat exchange fluid and the container.

12. (Original) A thermal transfer system as in claim 1 wherein:

a heat exchange fluid flows within the structure.

13. (Original) A thermal transfer system as in claim 12 wherein:

an interior portion of the structure has baffles.

14. (Original) A thermal transfer system as in claim 13 wherein:

the structure is configured to maximize an area of a surface of the structure that is in contact with the medium.

15. (Original) A thermal transfer system as in claim 12 wherein:

a heat exchange extension is at least partially coupled to the structure.

16. (Original) A thermal transfer system as in claim 1 wherein:

the medium in substantially uniformly heated or cooled.

17. (Original) A thermal transfer system as in claim 1 wherein:

the medium is heated or cooled in substantially one direction relative to the structure.

18. (Original) A thermal transfer system as in claim 1 wherein:

the structure is positioned to induce a thermal gradient in the medium such that the thermal gradient is in a predetermined direction.

19. (Original) A thermal system as in claim 1 wherein:

the medium is heated or cooled in a predetermined direction.

20. (Original) A thermal transfer system as in claim 1 wherein:

the medium is heated or cooled such that the thermal gradient is in a predetermined direction.

21. (Original) A thermal transfer system as in claim 1 wherein:

the medium is heated or cooled at a predetermined rate.

22. (Original) A thermal transfer system as in claim 1 wherein:

the medium is heated or cooled such that the thermal gradient is in a predetermined direction and the heating or cooling occurs at a predetermined rate.

23. (Original) A thermal transfer system as in claim 1 wherein:

the medium is a biopharmaceutical product.

24. (Original) A thermal transfer system as in claim 1 wherein:

the container has a nonporous bottom.

25. (Original) A thermal transfer system as in claim 1 wherein:

the container has nonporous walls.

26. (Original) A thermal transfer system as in claim 1 wherein:

the container has a top.

27. (Original) A thermal transfer system as in claim 1 wherein:

the container has a nonporous top.

28. (Original) A thermal transfer system as in claim 1 including:

a distal portion of the structure configured to improve thermal transport of the thermal transfer bridge.

29. (Original) A thermal transfer system as in claim 1 wherein:

the medium includes proteins.

30. (Currently amended) A thermal transfer system, comprising:

a container for receiving a medium;

a structure positioned in the container, a heat exchange member at least partially coupled to the structure and extending into the container wherein a distal end of the heat exchange member is placed in close proximity to an interior surface of the container to allow formation of a thermal transfer bridge, by said medium, ~~that conducts heat into or out of the medium~~ wherein heat is transferred from said distal end of the heat exchange member through said thermal bridge to said interior wall in response to said interior wall being actively cooled.

31. (Original) A thermal transfer system as in claim 30 wherein:

a heating or cooling device is coupled to and provides heating or cooling of the container.

32. (Original) A thermal transfer system as in claim 30 wherein:

a heating or cooling device is coupled to and provides heating or cooling of the structure positioned inside the container.

33. (Original) A thermal transfer system as in claim 30 wherein:

a heating or cooling device is coupled to and provides heating or cooling of the structure and the container.

34. (Original) A thermal transfer system as in claim 30 wherein:

there is a plurality of heat exchange members.

35. (Original) A thermal transfer system as in claim 30, further comprising:

a removable liner configured to cover at least a portion of the heat exchange member.

36. (Original) A thermal transfer system as in claim 30 wherein:

a volume of the container is in the range from substantially 1 liter to 250 liters.

37. (Original) A thermal transfer system as in claim 30 wherein:

a volume of the container is in the range from substantially 250 liter to 10,000 liters.

38. (Original) A thermal transfer system as in claim 30 wherein:

the container includes a jacket defining an interstitial space positioned between the jacket and a wall of the container for receiving a flow of a heat exchange fluid, the jacket further including a plurality of spiral baffles for enhancing thermal exchange between the heat exchange fluid and the container.

39. (Original) A thermal transfer system as in claim 30 wherein:

a heat exchange fluid flows within the structure.

40. (Original) A thermal transfer system as in claim 30 wherein:

the heat exchange fluid flows into the structure through an interior passage in the structure.

41. (Original) A thermal transfer system as in claim 30 wherein:

the heat exchange fluid flows out of the structure through an outer passage in the structure wherein one portion of the outer portion of the outer passage comprises an outer wall of the structure.

42. (Original) A thermal transfer system as in claim 30 wherein:

a heat exchange fluid flows within the heat exchange member.

43. (Original) A thermal transfer system as in claim 39 wherein:

an interior portion of the structure has baffles.

44. (Original) A thermal transfer system as in claim 42 wherein:

an interior portion of the heat exchange member has baffles.

45. (Original) A thermal transfer system as in claim 39 wherein:

an interior portion of the portion of the structure extending into the container has baffles.

46. (Original) A thermal transfer system as in claim 39 wherein:

the heat exchange fluid flows into the heat exchange member from the structure.

47. (Original) A thermal transfer system as in claim 30 wherein:

a heat exchange fluid flows into the heat exchange member from a heat exchange supply line.

48. (Original) A thermal transfer system as in claim 38 wherein:

the heat exchange fluid flows does not flow through the distal end of the heat exchange member.

49. (Original) A thermal transfer system as in claim 30 wherein:

a distance between the distal end of the heat exchange member and the interior surface of the container is a non-contacting distance not greater than one inch.

50. (Original) A thermal transfer system as in claim 30 wherein:

the medium is substantially uniformly heated and cooled.

51. (Original) A thermal transfer system as in claim 30 wherein:

the medium is heated or cooled in substantially one direction relative to the structure.

52. (Original) A thermal transfer system as in claim 30 wherein:

the medium is heated or cooled at a predetermined rate.